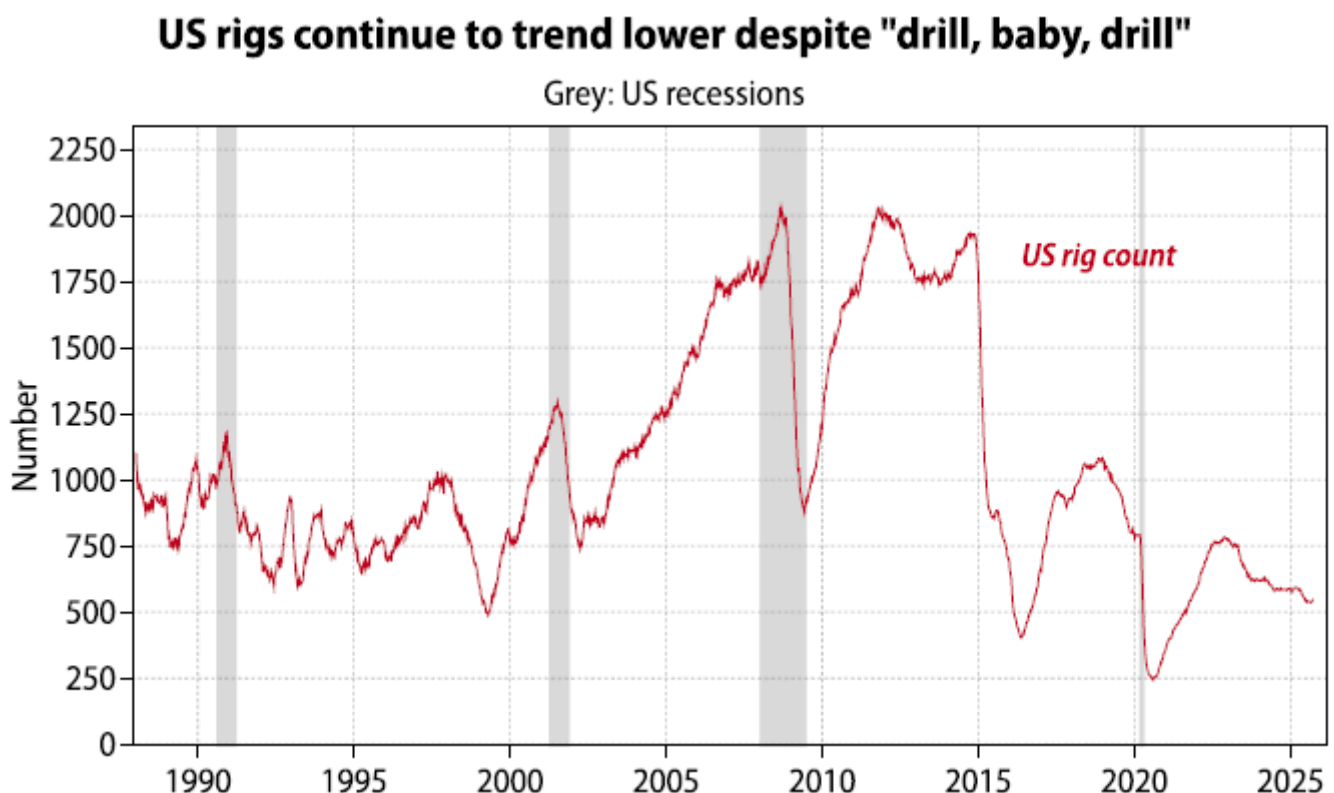


The Energy Trade-Off

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The American economist Thomas Sowell famously said that, in life, “there are no solutions, only trade-offs”. While this is undeniably true of most economic choices (i.e. tariffs typically benefit some producers and hurt most consumers), it seems especially true of energy-policy decisions. In recent years, Western policy makers have tended to impose ever increasing restrictions on the broader carbon industry in the name of fighting climate change. For example, through ESG requirements, funding to carbon producers became scarce and expensive. Hence, for all the talk of “drill, baby, drill”, the number of operating rigs in the US remains on a downward trend.

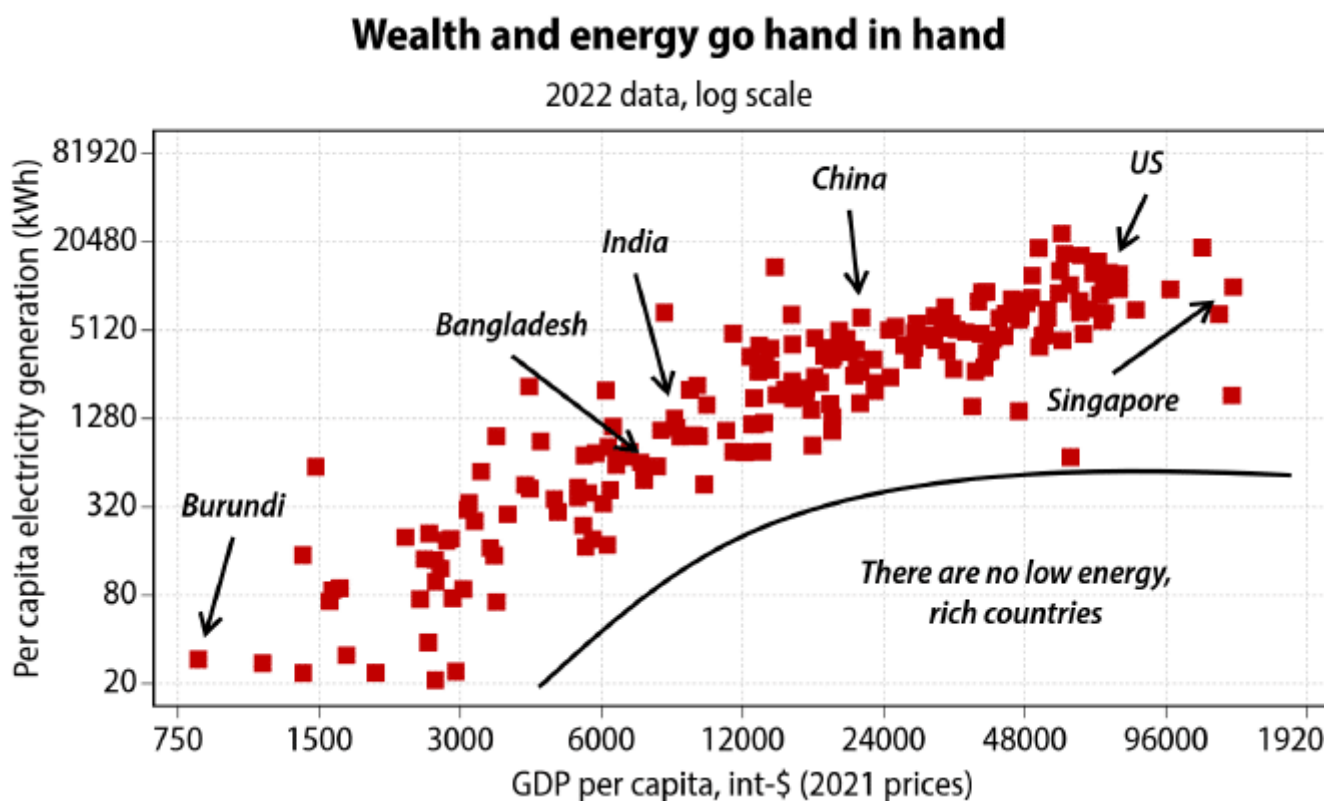


This policy choice by Western leaders of constraining energy production will be seen by most as either very courageous, or very short-sighted. On the latter point, recent political history tends to show that one of the surest ways for Western policy makers to lose the voting public’s confidence is to preside over a sharp rise in energy prices. This is what happened to Jimmy Carter, Valéry Giscard d’Estaing and Edward Heath in the 1970s. This political opprobrium makes sense for several reasons, including the fact that:

- No one likes to pay for higher energy costs, whether in the form of electricity, propane, diesel or gasoline.
- The fact that energy prices are posted along the side of every highway makes consumers particularly sensitive to any upward price change.
- Higher energy costs are a drag on economic activity.

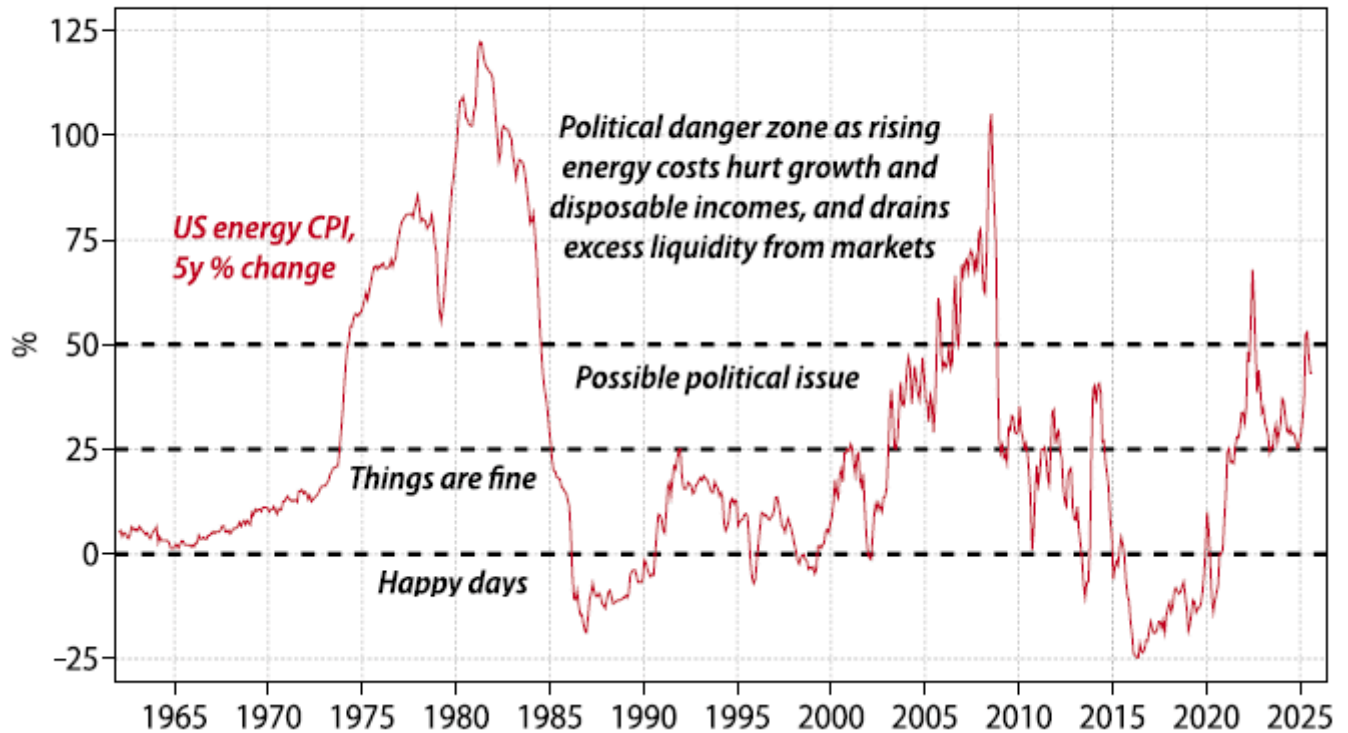
- Higher energy costs drain excess liquidity from the financial system and can negatively impact the valuation of other asset prices, whether bonds, equities or real estate.

Suffice to say that given the importance of energy prices to our modern economies, it would be fair to assume that the first priority of any elected official taking office would be to drive energy prices lower; whether through foreign policy (signing long-term supply contracts with reliable producers), energy policy, industrial policy and even educational policy (encouraging the training of young engineers to work in the energy complex, whether nuclear, petroleum or renewable). But again, very surprisingly, the precise opposite seems to have occurred across the Western world in recent decades. Rather than encourage more production of energy, Western policymakers have instead opted to encourage less consumption of energy. But in a world in which economic activity is energy transformed, less energy production, and consumption, essentially means less prosperity. As of yet, there are no examples of a rich country with low energy intensity, as shown in the chart below.



There are two reasons to highlight this fact. First, in many countries, rising energy prices are becoming a genuine Damoclesâ?? sword over policymakersâ?? heads (giletsjaunes riots in France). The second is that the rollout of artificial intelligence models is likely to spur sharply higher energy demand for the foreseeable future. And a combination of rising demand with constrained supply seems like a recipe for political upheavals.

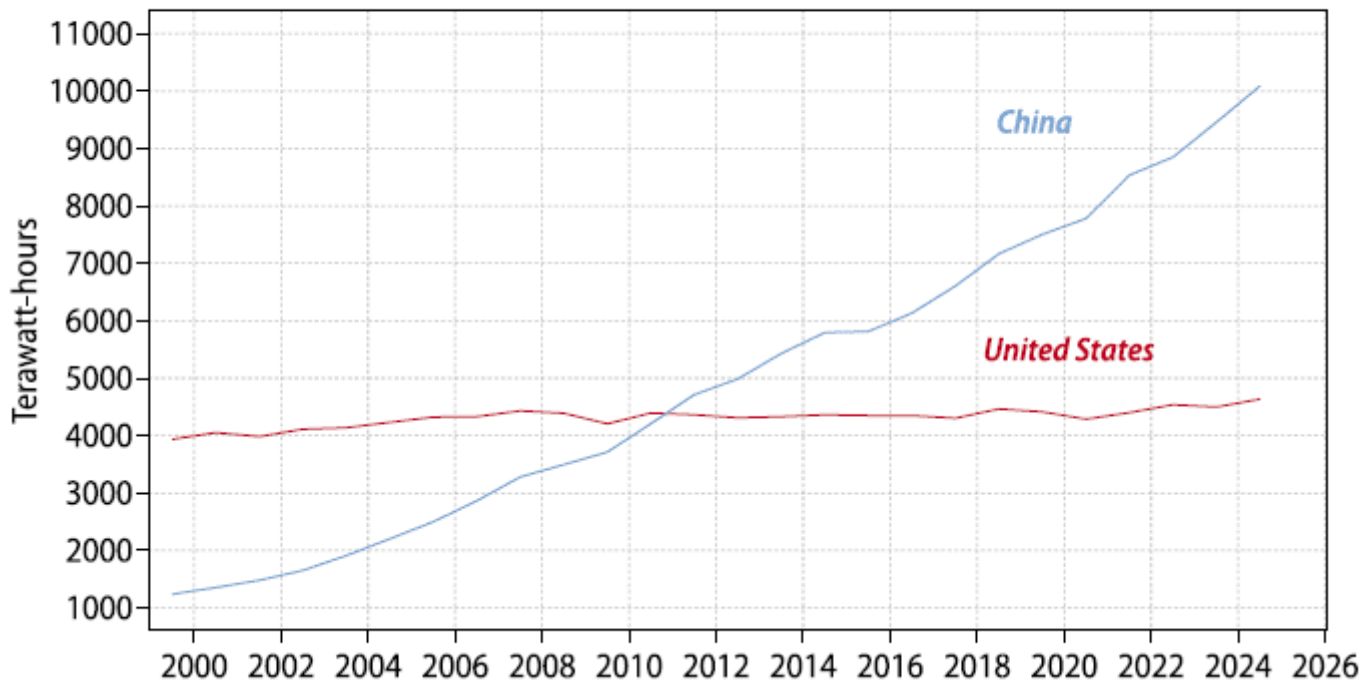
Rising AI energy costs could pose a political problem



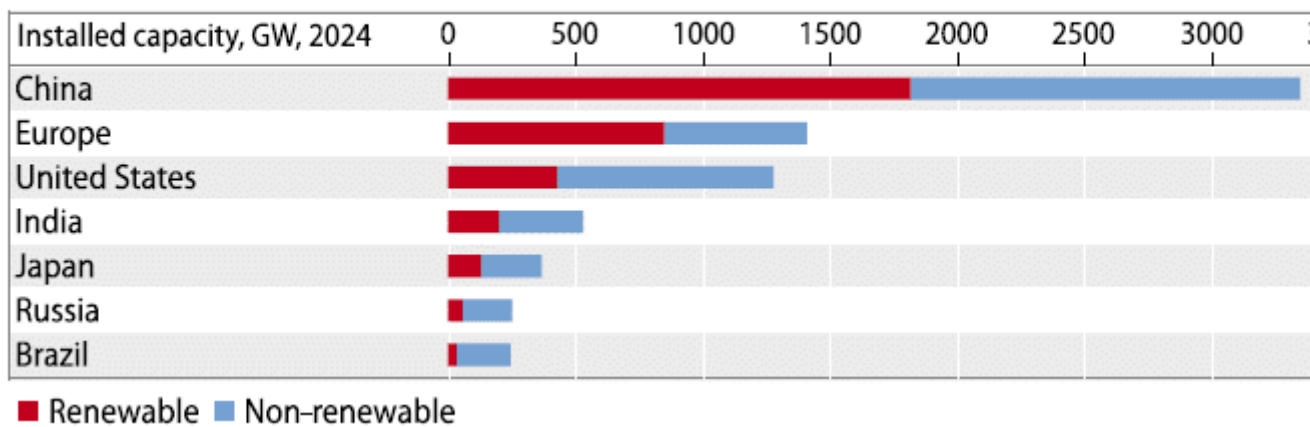
All of which brings us back to the quandary at the heart of the AI roll-out: whether the constraint on AI solutions will be access to computing power, or instead the access to electricity. As things stand, the US still holds a clear advantage in growing—and rolling out—computing power. In electricity generation, however, China has surged ahead: 20 years ago it produced about half as much electricity as the US; today, it generates more than twice as much. This means that China now produces more electricity than the US and Europe combined.

China dominates the US in electricity

Annual electricity generation, terawatt-hours



China has more power capacity than the US and Europe combined



Hence, if access to cheap electricity does become the main constraint to the AI rollout (admittedly a massive $\hat{a}??if\hat{a}?$), Western policymakers will face the following options:

- Option 1: Give up the AI lead to China (since China now has the cheapest cost of electricity among major nations). Politically speaking, this would be a bitter pill to swallow for any Western leader, and especially for US policymakers. It could also prove dangerous for the US stock market since equity valuations have come to rely so heavily on the idea that not only will AI prove a very profitable new tech ecosystem (perhaps a flawed assumption?), but most of the profits will flow to a handful of US mega-cap companies (coincidentally, the same ones that profited from the rollout of the smartphone ecosystem!).
- Option 2: As AI is rolled out, electricity prices will move higher. This will likely create anger among low-end consumers whose disposable incomes are already being squeezed. After

all, why should they have to pay more for electricity so that billionaire tech barons can buy their next rocket or mega-yacht? In Western democracies, this scenario could well see a growing political backlash against Big Tech. The counter scenario could be that AI solutions make life so much better for all that most people accept the need to pay higher electricity costs.

- Option 3: In a bid to avoid high electricity prices for households, Big Tech is encouraged to move data centers and other energy-intensive activities into jurisdictions with cheaper energy costs. This was the takeaway from US President Donald Trump's visit to the United Arab Emirates, Saudi Arabia and Qatar (see *Goeconomic Monitor: The Middle East AI Gambit*).
- Essentially, just as Western economies moved the production of highly polluting industries to China 25 years ago (and so managed to keep their own carbon footprint low), the same could be done with AI, but with the Middle East (which has the world's cheapest energy) this time playing the role of China. The obvious problem with this solution is that if the future really is about AI, it may not make strategic sense to export one's capacity in that field half way around the world to a geopolitically unstable region.
- Option 4: Find a way to rapidly reduce energy prices.

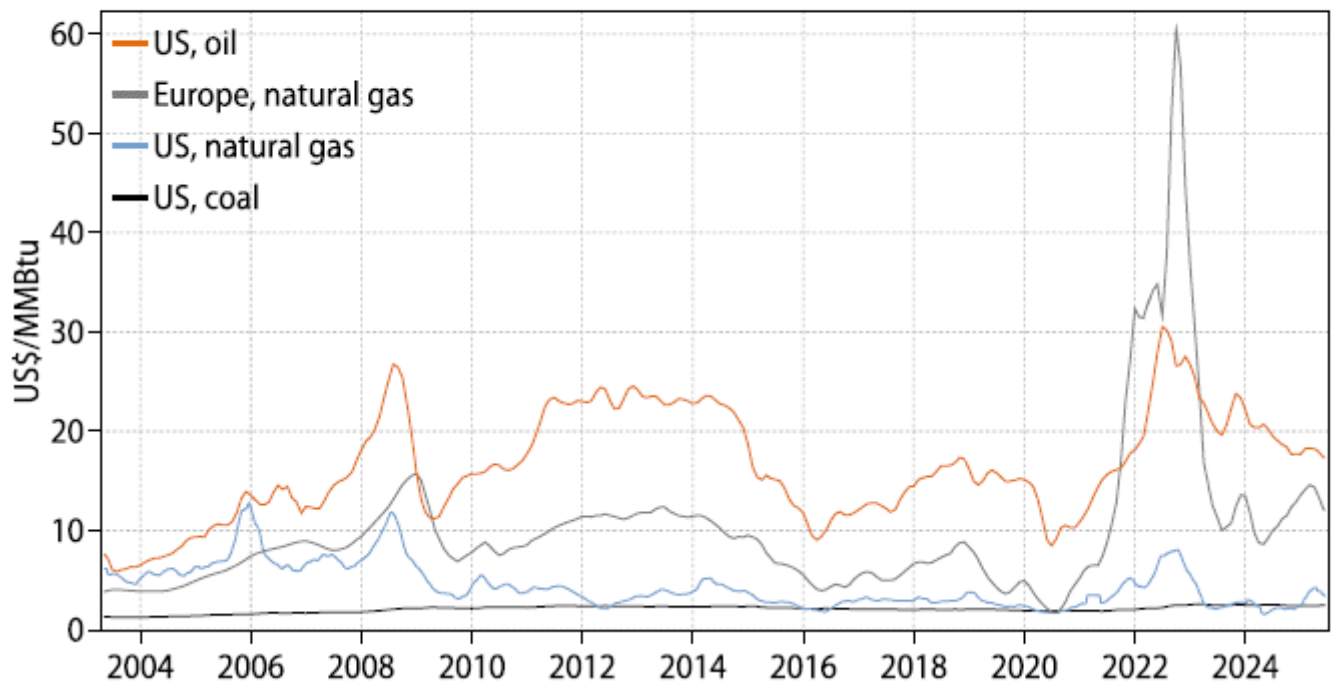
Of these four options, the last would seem to be the smartest political choice. But it brings us back to Sowell's point made at the outset of this report and the policy choices that must be embraced to achieve the end goal of lower energy prices (possibly the only path towards maintaining AI dominance and avoiding a political backlash). So how will Western policymakers—especially those in the US—ensure that electricity prices stop rising, and hopefully roll over?

One option would be to push for a marked increase in oil and gas production from Venezuela or Iran—ideally both. Despite their vast proven reserves, the nature of their regimes deters investors from committing the capital needed to optimize output, and so put downward pressure on global energy prices. The temptation to encourage regime change must thus be strong, although it should be noted that the US-led regime change in Iraq in 2003 was associated with oil prices later surging rather than collapsing.

A second, safer bet would be for the US to re-embrace coal, still the cheapest source of electricity (see chart below). After all, coal is relatively easy to mine, transport and burn, and coal plants can be built quickly at competitive costs. In recent days the US Energy Department has moved to delay the decommissioning of existing old coal power plants.

Coal is a cheap—and reliable—way of generating electricity

Cost of energy sources for power generation, quarterly moving averages

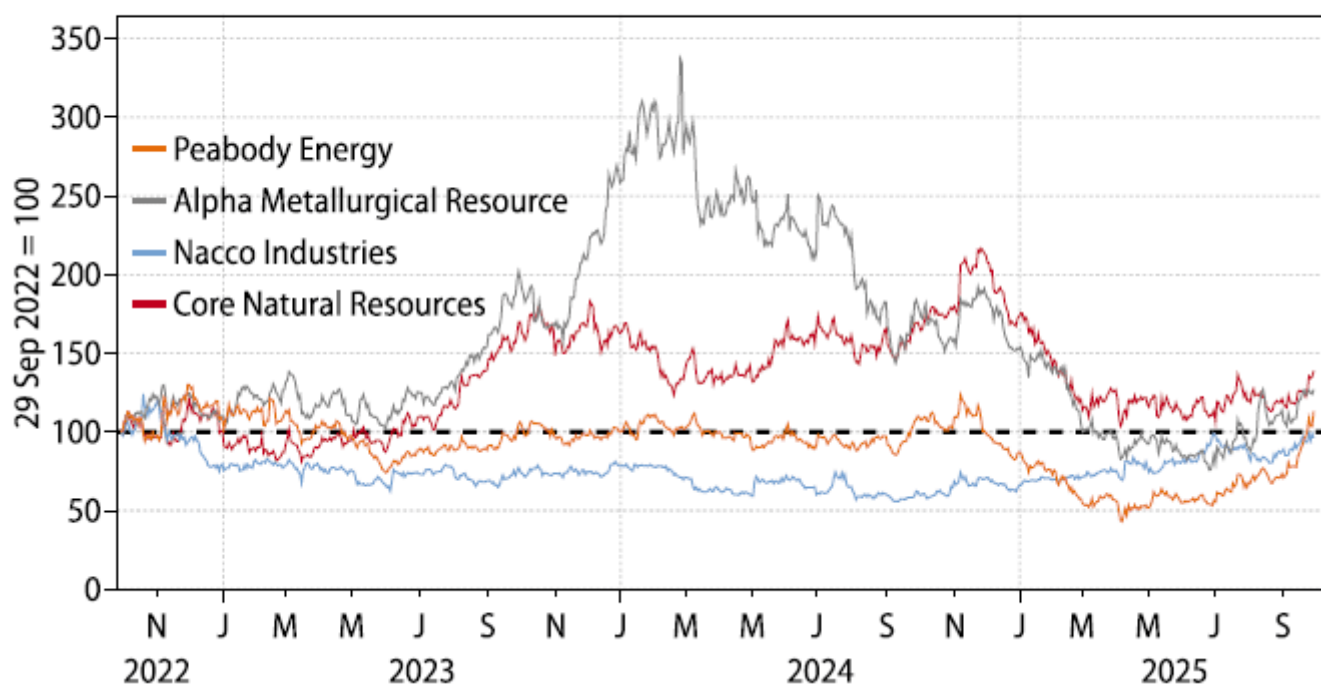


All of this brings us to Trump's recent United Nations speech, in which he essentially called climate change a hoax and berated those leaders who fell for it as essentially condemning their economies to atrophy and eventual death. This felt like a pretty strong signal that the US would have no qualms burning a lot of coal if that meant keeping its leadership in AI, crypto-currencies and all things energy intensive.

Interestingly, however, most US coal names are trading at roughly their level of three years ago. Sure, they have rebounded from their lows of 12 months ago. However, with an administration that very obviously does not carry any water for the Green lobby, with a demand outlook for electricity that keeps on being revised higher, and with oil and natural gas production in the US seemingly plateauing, one might think that coal names would be a little more popular. Of course, anyone with an ESG mandate cannot really start to look in the direction of coal miners. But then, at least in the US, ESG is also rapidly losing steam.

Have coal miners bottomed?

Total return in US\$



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